

Providing Additional Tools and Options for Energy Efficiency in Public Entities

Removing Barriers for "Alternative Project Delivery"



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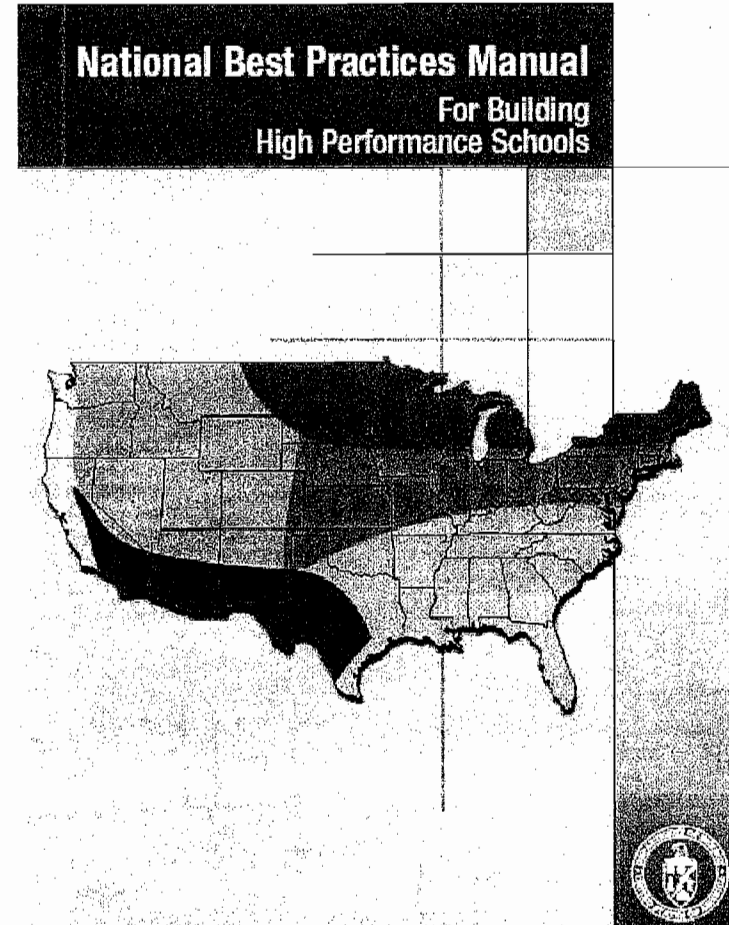
Need for Change



- **Large need for energy efficiency retrofit of existing public buildings**
 - ♦ Old and aging buildings (majority over 25 years)
 - ♦ Growing backlog deferred maintenance
 - ♦ ISU Study, \$3.5B in facility needs in 1995
 - ♦ Energy systems have profound impact on productivity
 - ♦ <http://www.ia-sb.org/SchoolFacilities.aspx?id=562>
- **Multiple funding streams (PPEL, SILO, DNR Energy Bank, etc), but limited project delivery options**

National Best Practice

- **No shortage of “best practice” for energy efficiency**
 - ♦ US Department of Energy
 - ♦ Association of Energy Engineers
 - ♦ US Green Building Council
 - ♦ Iowa Dept. of Natural Resources
 - ♦ Many, many more.....
- **Additional project delivery tools to expedite the energy efficiency process in Iowa**



Alternative Project Delivery

▪ **Master Builder of Iowa Annual Conference - Lessons “We can all learn from Design-Build”**

(February 2, 2007)

- ♦ Presenters referenced Penn State University study that examined 351 projects in 37 states and determined:
 - ♦ Total project costs can be reduced by 6% compared to the traditional approach
 - ♦ Total delivery time was 33% less
 - ♦ Change order cost were 5.2% less
- ♦ Presenters noted that design-build can offer best value for public owners because it is “solution” based, not “cost” based

Energy Efficiency Contracts



- ♦ Comprehensive, integrated energy upgrades to public buildings
 - ♦ Uses competitive procurement process based on value
 - ♦ Discloses costs of each component and performance guarantee
- ♦ Written guarantee of energy and/or operational cost savings
 - ♦ No up-front capital needed from public entity
 - ♦ Project costs financed on multi-year basis
 - ♦ Paid for through energy and/or operational cost savings
- ♦ Energy savings verifiable using International Performance Measurement and Verification Protocol
- ♦ Projects can utilize local architects, engineers and contractors
- ♦ Variety of financing sources are used including local banks and state DNR Energy Banks, etc.

Performance Based Energy Efficiency is proven

- **Widespread Use by Federal Government**
 - ♦ Most facilities in Iowa have been successfully retrofitted
 - ♦ August White House Directive to increase usage of Energy Efficiency Contracts
- **Enabling Legislation in at least 44 of 50 US states**
 - ♦ Includes every state that borders Iowa
 - ♦ Missouri, <http://www.moga.state.mo.us/statutes/c000-099/0080000231.htm>
 - ♦ Illinois, [50 ILCS § 515/1](#), [105 ILCS § 5](#), Article 19b, [110 ILCS § 62/1](#), 110 ICLS 805
 - ♦ Wisconsin, [§ 66.0133 \(1\) through \(10\)](#)
 - ♦ Minnesota, [123B.65](#), [16B.4821](#), [471.345](#)
 - ♦ South Dakota, [1-33B](#)
 - ♦ Nebraska, [66-1062](#), [66-1063](#), [66-1064](#), [66-1065](#), [66-1066](#)
- **Large scale adoption by Iowa's private sector**
 - ♦ Most Private Colleges have all ready retrofitted
 - ♦ Several Hospitals
 - ♦ Over 300 Commercial and Industrial Users

Example Project-



▪ Cape Girardeau Schools

- ♦ 4 Year old High School
- ♦ Many comfort complaints from students, faculty and parents
- ♦ Retrofit with Energy Efficiency Contract
- ♦ \$250,000 in projects
- ♦ Annual Payment \$23,000
- ♦ Annual Energy Savings Verified \$71,000
- ♦ **Verified improvement of Indoor Air Quality (IAQ) and occupant comfort**

Example Project



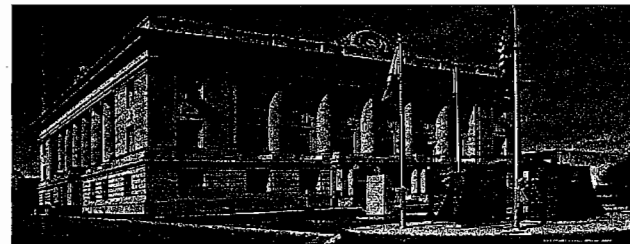
▪ **Marshall Public Schools**

- ♦ Air Conditioning of 70+ Year old Middle School
- ♦ Comprehensive energy upgrades in 5 other facilities
- ♦ Retrofit with Energy Efficiency Contract
- ♦ \$3,000,000 in projects
- ♦ Annual Payment \$250,000
- ♦ Annual Energy Savings \$145,000
- ♦ Created more affordable approach to facility improvement and air conditioning upgrades

Solution – Create Additional Tools for Public Building Owners

- **Allow use of Alternative Project Delivery and Energy Efficiency Contracting**

- ♦ Energy efficiency and indoor air quality enhancement can be achieved, verified and proven
- ♦ Where up-front capital is not required and cost of energy efficiency is paid through annual energy savings
- ♦ Where a competitive process is used to solicit proposals
- ♦ Allow public entities to select a bidder to provide energy upgrade services based on best value when considering multiple factors (initial cost, life cycle cost, performance guarantee and quality)



Benefits to Iowa



- **Provides additional tools and proven approach to achieve greater energy efficiency**
- **Dramatically increases amount of energy efficiency investment in Iowa's public buildings**
- **Improve learning environments and occupant productivity**
- **Funds improvements with minimal risk and cost to taxpayers**
- **Allows Iowa to implement energy efficiency at more rapid pace**



EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON ENVIRONMENTAL QUALITY
WASHINGTON, D.C. 20503

August 3, 2007

MEMORANDUM

TO: HEADS OF EXECUTIVE BRANCH DEPARTMENTS
AND AGENCIES

FROM: JAMES L. CONNAUGHTON, CHAIRMAN *JLC*

SUBJECT: SUBSTANTIALLY INCREASING FEDERAL AGENCY USE OF
ENERGY SAVINGS PERFORMANCE CONTRACTING

Keeping America competitive requires investment in more affordable, efficient, clean, and lower carbon use of energy. In the Federal government, one of our best opportunities to retrofit the energy systems needed to achieve Executive Order and legal requirements is through greater use of private government-wide Energy Savings Performance Contracting (ESPC) and Utility Energy Savings Contracting (UESC) programs administered by the Department of Energy's Federal Energy Management Program (FEMP). Therefore, the heads of executive departments and agencies are directed to take appropriate actions to significantly increase their use of the ESPC/UESC tool to accomplish their energy related goals. Executive departments and agencies already have the contracting flexibility to use ESPCs and UESCs to complete projects, particularly in cases where direct funding is not available or sufficient, and agency procurement and contracting officials should be assessing every opportunity to use these tools.

Agencies shall inform the Assistant Secretary for Energy Efficiency Renewable Energy at the Department of Energy (akarsner@ee.doe.gov) within 45 days from the date of this memorandum, on their initial assessment of opportunities for use of ESPCs and UESCs at their facilities to achieve results. Based on this feedback, FEMP will assist each agency in establishing energy efficiency investment targets, a percentage of which shall be through ESPCs and UESCs. Your target and the percentage that is ESPC or UESC will be a function of size and actual opportunity. It is projected that agencies must invest an amount equivalent to 20 percent of their annual energy costs on efficiency enhancements in order to meet our goals. ESPCs/UESCs shall account for at least half of this total, or at least 10% of annual energy costs. Agencies already investing more than 10% shall continue. Exemptions to these requirements shall be addressed on a case by case basis.

Background

Since 1985, Federal agencies have invested almost \$7 billion in energy efficiency improvements from all sources. Half, or \$3.5 billion, of this investment has come from ESPCs and UESCs. Total investments to date are estimated to have saved between \$800 million and \$1.16 billion just last year. Cumulative savings to date could be as high as \$8.5 billion, saving 4.5 trillion Btu. Despite these successes, ESPCs and UESCs are not

as widely used in the Federal community as they should be. Contracts are typically too small and take too long to implement. With an industry investment capacity capable of meeting our demand, there is much room for growth in use of this tool.

With the passage of the Energy Policy Act of 2005 last August, President Bush committed America to reducing our dependence on foreign energy supplies, to setting aggressive energy conservation goals and to increase our share of cleaner, more efficient, and lower carbon use of energy. On January 24, 2007, President Bush signed Executive Order 13423, Strengthening Federal Environmental, Energy, and Transportation Management. This order sets a series of aggressive goals, including goals for improved energy efficiency, reduced greenhouse gas emissions, increased alternative energy purchases, and improved water conservation.

To help accomplish Presidential and legal requirements, it is incumbent upon each Federal agency to lead the way - and to lead by example in the wise use of our energy resources and elimination of inefficient energy practices. Achieving these goals requires that Federal agencies look beyond appropriated funds to further accomplish their energy objectives and by using market-based solutions found through the use of innovative performance contracting programs that fund the investments upfront allowing the government to pay for improvements through the guaranteed savings obtained.

Congress established the ESPC program in 1992, and reauthorized it through 2016 with EPAct 2005, as a way to improve the Government's energy efficiency by harnessing private sector resources to invest in necessary energy efficiency projects that can yield guaranteed savings. ESPCs and UESCs are tools to help agencies achieve our goals. They provide a flexible, cost effective, market based way for agencies to reduce consumption of conventional fossil fuels - and to do so without incurring the up front capital costs normally associated with projects of this nature.

Agencies have long been using the ESPC and UESC programs to implement energy efficiency, water reduction, and renewable energy improvements. During FY 2005, 20 ESPC contracts or delivery orders were awarded at five agencies. These include delivery orders awarded through the DOE/FEMP Super ESPC programs as well as projects awarded by DoD. Project investment from these projects totaled approximately \$96.8 million, providing the Federal government with an opportunity to save more than 726.4 billion Btu each year. Through a decentralized approach, DoD awarded the largest number of contracts/delivery orders with 15 ESPC projects in FY 2005. Of the 40 UESCs awarded in FY 2005, 32 were implemented by DoD. Contracts were put in place to perform infrastructure upgrades and purchase new equipment to help installations reduce energy and water consumption.

According to preliminary data for FY 2006, investment in energy efficiency is increasing, totaling \$668 million from all sources. ESPCs were the primary contributor to an overall increase of \$163 million from FY 2005, or a 32 percent increase.